



WHITEPAPER V3.2

DEMOCRATIZING THE WORLD'S INTERNET OF VALUE

01

Overview

In the digital era, the combination of blockchain technology with cryptography provides access to endless business opportunities. Turning assets into tokens, removing the intermediary, increasing liquidity to non-liquid assets, immutable recordkeeping, and the ability to be transparently audited are all particular features that blockchain technology and Decentralized Finance have created and such technologies can be used to benefit business sectors. However, entrepreneurs and Small and Medium-sized Businesses (SMBs), as well as startups, have challenges to accessing these technologies, preventing them from fully and comprehensively utilizing blockchain with their businesses.

Bitkub Blockchain Technology Co., Ltd. ("BBT"), a Blockchain Full Solution Service Provider, has developed Bitkub Chain to lower business barriers. Bitkub Chain is Thailand's first Blockchain Network, aiming to be accessible by all entrepreneurs with security and capability of handling an increasing volume of transactions with efficiency while enabling developers (the "Developer") to access and create the Decentralized Applications and providing supports for this Decentralized Applications to run on Blockchain with minimal transactional fees on the Blockchain (the "Gas Fee"). BBT, as a pioneer in advancing blockchain technology in Thailand, and affiliates in Bitkub Group wish to elevate Thai industry and Southeast Asia industry progressively by use of Bitkub Chain.

This Whitepaper was arranged with the objectives to provide information on the structure and operation of the Bitkub Chain Network, as well as to describe the current state of Bitkub Chain ecosystem and future operational plans of Bitkub Chain ecosystem, of which it has KUB as the Native Token and allows the seamless exchange of value between the users without the need for an intermediary. This document is arranged with the purpose for educating anyone who is interested in blockchain technology by presenting facts, developments, and roadmaps in connection with Bitkub Chain including to show how skillful developer team of Bitkub Blockchain Technology Co., Ltd. (the "Developer Team") has designed Bitkub Chain as a secure and easily accessible infrastructure for entrepreneurs ranging from small to large businesses.

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Bitkub Chain V3.2 Overview

The latest Bitkub Chain Whitepaper, BITKUB CHAIN WHITEPAPER V3.2, will define the future of the Bitkub Chain. This Whitepaper will remain the heart of Bitkub Chain network, aiming to be a ready-to-use infrastructure for the users, and will outline the essential modifications to the Bitkub Chain network in 2023.

The Bitkub Chain network currently has over 390,000,000 transactions and 2,000,000 registered wallet addresses, divided into approximately 1,000,000 wallet addresses from Bitkub NEXT, a digital wallet developed by BBT after only 1 year and 6 months of launch; and Metamask wallet by approximately 1,000,000 addresses.¹

Bitkub Chain must enhance and modify its system in order to reach more target groups in order to fulfill the primary objective of bringing blockchain technology to mass adoption. The overwhelming success of Bitkub Chain's initial stages via projects, such as FANS Token, Morning Moon Village, Bitkub NEXT, and Bitkub NFT which obtain positive feedback tremendously, demonstrates the excellent evidence that the low transactional fee on blockchain in Gwei unit ("Gas Price") is one of the factors contributing to cause mass adoption. As a consequence, the Developer Team has discussed with Validator Node to reduce the Gas Price per transaction on Bitkub Chain network from 50 Gwei to 5 Gwei, resulting the Developer Team to reduce the number of KUB to 110,000,000 coins and modify the coin distribution scheme for the appropriateness and sustainability of Bitkub Chain network.

After Bitkub Chain has been operating for 2 years and 6 months, on October 2023, the Developer Team has discussed with Validator Node to adjust Gas Price from 5 Gwei to 25 Gwei on the purpose of adjustment the balance between relevant parties in the ecosystem, including general user, project developer, Validator, and Delegator in order to allow everyone to be a part of the development of Bitkub Chain towards the goal of becoming the foundational infrastructure of the digital economy in the future, of which such Gas Price adjustment from 5 Gwei to 25 Gwei was completed on October 16, 2023.

To increase utility of KUB, the BBT developer team has added features of KUB that will be mentioned in this Whitepaper. KUB has various features that enable it to be used to pay the Gas Fee on the Bitkub Chain network, as well as to be redeemed for fee credits on the Bitkub Online Co., Ltd. Aside from the initial advantages, KUB may be redeemed for goods, services, or privileges via BBT partners or certified stores. All of these features were accomplished in accordance with the plan as indicated in Bitkub Chain Whitepaper V2.2.

The Developer Team has included a Roadmap for Q3 and Q4 for 2023 in this Bitkub Chain Whitepaper, which focuses on establishing blockchain technology ecosystem and infrastructure that is powerful, sustainable, and capable of handling more traffic.

The Developer Team sincerely hopes that the modifications made in Bitkub Chain Whitepaper V3.2 will serve as a catalyst for the phenomena of mass adoption in the society altogether with igniting the users to develop innovative concepts in order to disseminate opportunities in the era of internet of value that benefit all people equally and equitably.

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Introduction to Bitkub Ecosystem

4.1 About Affiliates in Bitkub Group

Affiliates in Bitkub Group have accelerated the adoption of blockchain technology in Thai society via development of the infrastructure necessary for a decentralized financial system. Mission of affiliates in Bitkub Group is the development of a blockchain ecosystem platform that serves as a one-stop service for everyone from typical investors to large corporations in order to improve knowledge, comprehension and awareness of technology to any person in any sector, so that they can apply and adapt blockchain technology to their business sectors.

Bitkub Capital Group Holdings Company Limited (“BCGH”) was founded in 2018 with the core mission to provide services in relation to cryptocurrency technology and blockchain via any company in the affiliates of Bitkub Group, such as digital assets exchange platform services, blockchain technology and development consultant services, knowledge center of digital assets and blockchain and others as mentioned subsequently. BCGH currently has the total registered capital of 74,154,380 Baht and its headquarter is located in Bangkok, Thailand.

Other than BCGH, the affiliates of Bitkub Group has 9 companies as below :

Bitkub Online Co., Ltd. (“BO”)

Thailand’s leading digital assets exchange service provider which offers digital assets trading and storage services, with security system under international standard, to both individual and corporate customers.

Bitkub Blockchain Technology Co., Ltd.

The service provider of Blockchain Full Solution service and consultant service for Initial Coin Offering (ICO) for businesses or entrepreneurs which seek to enhance their businesses by using blockchain technology and the service provider of Bitkub NEXT wallet services and other services that involve blockchain technology.

Bitkub Labs Co., Ltd.

A knowledge-sharing provider of blockchain technology, digital assets and relevant technologies in order to prepare for the future economy of which blockchain technology will play a significant part in Thai social context.

Bitkub Ventures Co., Ltd.

The provider of financing to support the development of business focusing on investment in startup or startup that operates blockchain business, with the purpose to drive the future of blockchain by assisting new entrepreneurs with expertises in digital assets, investment, banking, and business consultant.

Bitkub Moonshot Co., Ltd.

The company focuses on offering innovative works in the field of technology, including the development of Decentralized Applications and artificial intelligence (AI) systems, along with enterprise platform creation of both government agencies and private sector organizations, enabling businesses to adapt with the dynamic digital world and to solve technological challenges efficiently and with a skilled team of experts to solve business challenges of the customers with flexibility and security altogether with responding to the customer's needs in business aspect appropriately and efficiently.

Bitkub Worldtech Co., Ltd.

A joint-venture company that organizes learning and training courses in digital technology to create efficient workers with digital potential for the Thai domestic labor market in order to create "opportunities" and "careers" for participants while also enhancing the quality and standard of work of the participants to enable the entrepreneurs to access workers who is efficient and has knowledge in digital field.

Bitkub Portal Co., Ltd. ("BP")

A company that is incorporated with the purpose of becoming the Initial Coin Offering Portal (ICO Portal) of which BP is currently preparing and submitting the application for an ICO Portal license with the Securities and Exchange Commission, Thailand. BP provides a new route to increase opportunities for business, especially, the financing aspect. BP is established by the executive team who has expertise in traditional fundraising. With such existing experience of the executive team and experience of the relevant team in the development of decentralization and blockchain, BP aims to create a secure and easily accessible service to the investor and the entrepreneur who wants to issue and offer digital tokens.

Kubplay Entertainment Co., Ltd.

A joint venture company that operates in developing a comprehensive blockchain ecosystem for games that adhere to the original business model, known as Conventional Game to be enabled to transform its business model to Hybrid GameFi and also the acquisition of online game licenses from the developers to provide services within its ecosystem.

Kubtech Joint Stock Company

A joint venture company that operates as a service provider of software development and information systems in relation to digital assets and blockchain businesses in order to support the expansion of such businesses and strengthen the business in order to have a positive impact on the end users.

4.2 More details about Bitkub Online Co., Ltd.

BO is an affiliate of Bitkub group which has been incorporating since 2018 with the currently registered capital of 450,000,000 Baht. BO operates as a digital asset exchange service provider licensed by the Securities and Exchange Commission, Thailand, with the goal of being a bridge for everyone to confidently step into the digital world by designing products that are friendly to new users with an international standard security system and has been continuously audited for transparency by leading foreign organizations. It also provides trading services of multi-digital asset currency in one place, as well as financial facility tools for both investors and entrepreneurs.

Highlights of Bitkub Online Co., Ltd.

- The highest trading volume of digital assets exchange in Thailand.²
- Having the digital assets currencies more than 86 currencies.³
- Obtaining ISO/IEC 27001, the standard of management of information security, and ISO/IEC 27701 the standard of management of personal data.⁴
- Obtaining assessment from the website Cer.live, the ranking platform, with certification of Cybersecurity and Certification in rank AAA which is the highest level of security with the high score of 93.30 percent and being ranked in number 12 among the digital asset exchange worldwide.⁵
- Total application download of 9 millions times.⁶

4.3 Working Team

Passakorn Pannok

A Chief Executive Officer of BBT, who has over 13 years of experience in the software industry, with expertise in software engineering; coding of the smart contract on blockchain networks, especially Ethereum and HyperLedger. In addition, he is also a lecturer of software engineering course at Burapha University.

Samret Wajanasathian

Highly experienced Chief Technology Officer with a demonstrated history of working in the computer software industry. Skilled in C/C++ native programming, native multi-threaded application, Agile Methodologies, Java, Console Games, distributed/decentralized/grid computational application, and Software Development. Strong information technology professional with a Bachelor's Degree focused in Computer Science from Silpakorn University

Niorn Kiatdamrong

A Chief Operating Officer of BBT, who has over 11 years of experience as a business consultant and corporate director. She graduated with a Bachelor's in Business Law from Chulalongkorn University and a Master's Degree of International Business from Griffith University in Australia.

Siraphop Jantaraopas

A Senior Marketing Manager of BBT, who has over 9 years of experience in marketing and technology expertise, having worked with government agencies and national corporations such as the Ministry of Foreign Affairs and the Tourism Authority of Thailand, etc.

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Bitkub Chain

5.1 Issues to be solved

Bitkub Chain was developed to solve the current issues of national and regional Blockchain ecosystems. The first issue is that Thailand still lacks blockchain network infrastructure for the industry, resulting that Thai entrepreneurs relies on blockchain network infrastructure developed by foreigners with the relatively high Gas Fee which causes obstacles to the Thai entrepreneurs and prevents them from effectively accessing the blockchain network infrastructure. Another issue that prevents blockchain from being widely reputable is the limitation of technology because the business sector that is able to access blockchain, is required to have fundamental and sufficient knowledge of blockchain technology.

Bitkub Chain is a blockchain network developed by BBT, with the goal of providing infrastructure for the industry as well as opening the opportunity for the public to become the Validator for validating transactions and create new blocks on the blockchain network. Bitkub Chain still has a mission to support blockchain users with appropriate Gas Fee while maintaining a rapid, secure, and high-performance transaction to facilitate developers of new projects and users on Bitkub Chain network.

5.2 Vision

Bitkub Chain has a vision to disperse economic and financial opportunity to be accessible in equality with transparency and security. Tokenized assets will allow values to be transferred seamlessly, safely, and effectively without the need of intermediaries or third parties. Bitkub Chain network provides quick processing capabilities, including opportunity for more real-world business applications in the business section.

5.3 Mission

Bitkub Chain has a mission to provide blockchain technology to broadly apply with business sector via information dissemination while maintaining the Gas Fee in appropriate level, which shall promote creation of innovation and holistic creation of Bitkub Chain ecosystem.

5.4 Value Delivered to Participants

Bitkub Chain is a blockchain network that was created to support the widespread use of blockchain for developers, small business, startups, and general users to create, distribute, and manage various applications on the blockchain system, including digital assets, Decentralized Applications, Utility Tokens, and Non-Fungible Tokens (“NFTs”).



Bitkub Chain has qualification to support the development of applications or software on blockchain and enabling both individual and corporate users to fully use blockchain technology and brings material created on blockchain to apply with the business resulting the development of Bitkub Chain Ecosystem to be broader.

Bitkub Chain is able to support various products relating to Decentralized Finance, including lending and borrowing, Decentralized Exchange, Data Oracles, Data Tokens, and Yield Farming.

For establishing fundamental of blockchain ecosystem to be flexible and expandable to support numbers of transactions increased with efficiency, Bitkub Chain is designed and developed to support high volume of transactions by maintaining the Gas Fee in reasonable level including security and transparency at the same time.

The followings are the values that Bitkub Chain will provide to its users.

- Resolve business challenges by forming a network that enables small and large enterprises to operate together;
- Bitkub Chain can be applied by corporate business partner to create a decentralized system;
- Convert assets to the form of tokens and NFTs
- Increase liquidity to non-liquid assets with market supports;
- Be an easily accessible infrastructure for everyone to urge the utilization of Bitkub Chain for real application with the business sectors;
- Simplify the process to develop Smart Contract or applications on the blockchain, as well as support new functions added in the future;
- Maintain a balance between permissioned and permissionless networks
- Encourage entrepreneurs in Thailand to use blockchain technology easily by giving knowledge and understanding of related technologies based on long-term skills and experiences of affiliates of Bitkub Group.

5.5 Technical Description

Bitkub Chain

Bitkub Chain is designed to be the infrastructure of the new internet era of which valuable assets are digitalized more. Bitkub Chain aims to be the network of the new internet era that shall deliver values via the internet safely, transparently and conveniently on Decentralized Network. Bitkub shall open the opportunity for everyone to participate in creation of projects and applications on the decentralized network. The network participant shall receive benefits from the Gas Fee in appropriate level and rapid transaction.

Nowadays, functionality of various applications as we currently use, are the functionality connected to the database of such application of which the information shall be collected and accessed by a single person, called as the centralized system which is different from Bitkub Chain as it works on the concept of decentralized system.

The concept of a decentralized system of Bitkub Chain provides a collection of databases in which this large database is dispersed among the relevant individuals and can be used to connect to the applications that need to freely utilize this database. The groups of individuals who collect those data, are called as Node of which the Node shall disperse the recordkeeping of identical data in each Node after that the application on Bitkub Chain can access, collect and use information following the mechanism of application or process the data via the Virtual Machine or Smart Contract that performs the duty to process transaction pursuant to the requirement of such application.

Bitkub Chain Mainnet

Consensus: Proof-of-Stake (PoS) Chain Configurations

- Chain Id: 96
- Block Period: 5 seconds
- Gas Price: Dynamic (minimum 25 Gwei)

Network Endpoints

- RPC endpoint: <https://rpc.bitkubchain.io>
- WS endpoint: <wss://wss.bitkubchain.io>

Proof of Stake

Bitcoin was developed in 2009 as a Proof-of-Work (PoW) concept. Bitcoin has since become the cornerstone of concept of Decentralized Digital Value Transfer. Despite the fact that Bitcoin is greatly acceptable and is the high value asset, it has been criticized for its large use of power and its tremendous environmental effect.

In 2012, a project called PeerCoin introduced an alternative concept to consensus technology: Proof-of-Stake (PoS), which was developed to solve the previously mentioned Bitcoin problem of requiring enormous amounts of electricity. Currently, the Proof-of-Stake (PoS) concepts are widely popular of which the projects that adopt this concept are Polkadot, Cardano, and Ethereum 2.0 projects.

Subsequently, the development of Proof-of-Authority (PoA) concept jointly with the emphasis of transparency of the person who validates transaction on blockchain, so-called the Validator, results the user of blockchain technology be able to access blockchain and obtain benefits from the low Gas Fee and the rapid confirmation of transaction of which, under the Proof-of-Authority (PoA), the user of the network shall rely on the reputation and honesty of the person who performs the duty as the Validator.

In 2021, Bitkub Chain begun to work by the concept of Proof-of-Authority (PoA) which causes the rapid confirmation of transaction and the low Gas Fee and it provides positive result to all participants of the network such as the user, the developer including the entrepreneur who is relevant to Bitkub Chain.⁷

After Bitkub Chain started developing the network with Proof-of-Authority (PoA) system completely, in 2022, Bitkub Chain has switched to a Proof-of-Stake-Authority (PoSA) system to confirm data on the Distributed Ledger Technology instead of using the Proof-of-Authority (PoA) system to extract maximum potential developed on Bitkub Chain to use in business efficiently and to be in line with the vision and mission of building digital infrastructure that is widely acceptable in various industries.



The Proof-of-Stake-Authority (PoSA) system is one of the consensus mechanism that combines the concepts of Proof-of-Stake (PoS) and Proof-of-Authority (PoA) together for increasing the decentralization and security of blockchain network more, where the users have the right to participate as a Validator on Bitkub Chain through the Proof-of-Stake-Authority (PoSA) consensus mechanism.

The Validator on a Proof-of-Stake-Authority (PoSA) system is a person or group of persons accepted to run the Node due to their possession of 250,000 KUB per Node and has a well-known reputation in the society. Both conditions are necessary to make Bitkub Chain network transparent and verifiable. The addition or removal of Validator must be done via majority vote.

In 2022, after a complete transition from Proof-of-Authority (PoA) to Proof-of-Stake-Authority (PoSA), Bitkub Chain has always been operating smoothly with zero downtimes, of which as of now Bitkub Chain has on chain transaction over 300 million total transactions and block verification times for an estimate 5 seconds each.

Bitkub Chain will make transition from Proof-of-Stake-Authority (PoSA) to Proof-of-Stake (PoS) consensus mechanism in order to increase security and decentralization of the network more as well as to promote real usage broadly in a wide range of industries, which will align with BBT's vision.

Bitkub Chain Proof of Stake is a consensus mechanism on Bitkub Chain opened for public and allows participants to become a part of Bitkub Chain via staking KUB for obtaining right to be the Validator or the Delegator (by staking KUB to assist the Validator to have more chance of being selected to validate transaction on Bitkub Chain). The Proof-of-Stake (PoS) consensus mechanism has many benefits such as reducing electricity consumption, scalability of transactions, faster transactions, and security measures for network integrity, allowing the nodes to behave properly and helping the blockchain network to be more secure and decentralized.

Nodes

Node can be classified into 3 types; Full Node, Bootnode, and Validator Node. A Full Node operates as the functional of data controller in the Distributed Technology system, and also submit the transactions and access network transactions, of which the Decentralized Application will be able to communicate with Full Node via use of Ethereum that supports Web3 Libraries to execute and store transactions inside such applications, whilst on-chain wallets would use data in the network for publishing data to the public. The Bootnode enables new nodes to detect and communicate (Dynamic Discoverability) with other Nodes in the network. Finally, the Validator Node will be in charge of validating and verifying transactions before accessing the distributed database through the Consensus.

More Description of Nodes

Full Node

- The Full Node will be connected to interact with applications that wishes to use data on blockchain to transact or execute Smart Contracts. Furthermore, each Full Node will be required to update Go Ethereum Client Software in order to process and administrate data on the Distributed Ledger, which the BBT developer team has splitted the Node who is responsible for accepting the transactions from the Node who is responsible for signing or validating (Validator Node) to guarantee that both parts of such operations do not compete for the same resource.

Bootnode

- Bootnode serves as a Dynamic Discoverability supporter, is the first connecting point for Nodes in the Bitkub Chain Network, and allows any Validator Node that will operate on Bitkub Chain to connect and communicate smoothly with another Nodes.

● **Validator Node**

The Validator Node is in charge of validating and verifying transactions. Validator Node shall communicate with other Validator Node on the blockchain network to achieve consensus in every transaction on the Distributed Ledger.

Validator on Bitkub Chain

The Validator is a group of individuals who validates blockchain transactions on Bitkub Chain Network to ensure the security of transactions and decentralization of the blockchain. For Bitkub Chain, the group of individuals who participate as Validator must stake their KUB to be entitled as Validators and receive reward determined by the quantity of KUB staked by each Validator.

Delegator

Delegator of Bitkub Chain Proof-of-Stake (PoS) consensus mechanism is a person who delegates authority for validating transaction to the Validator of which the Delegator shall jointly stake KUB with the Validator for joining in validation of transaction on the block and obtain reward proportionately dependent to the amount of KUB staked by the Delegator. The Delegator is not required to have any technical knowledge or placement of infrastructure system for the Node.

Benefits and Remarks of joining Validators on Bitkub Chain's Proof-of-Stake (PoS)

Validator Benefits

- Validation of transactions via the block and the consensus mechanism
- Earn higher rewards based on the staking amount
- Have ownership of nodes and control over the operation of the Node
- Directly contribute to safeguard security and stability of Bitkub Chain network

Validator Remarks

- Required technical knowledge and infrastructure setup of the Node
- Responsible for maintaining the availability of Node

Benefits and Remarks of joining Delegators on Bitkub Chain's Proof-of-Stake (PoS) Consensus

Delegator Benefits

- Participate indirectly by joining with Validators
- Receive rewards from validation of transaction proportionally, of which such reward shall be shared between the Validator and the Delegator
- No need to setting up or maintaining infrastructure or having technical expertise relating to the Node

Delegator Remarks

- Rely on Validators' performance
- May encounter the situation that some Validators may not obtain much chance to validate blocks and obtain reward
- Flexibility to stake with different Validators

Type of Validators on Bitkub Chain's Proof-of-Stake (PoS)

Proof-of-Stake (PoS) of Bitkub Chain has been designed to have types of Validator for flexibility to support difference and readiness of the participants in validation of transaction with differences of knowledge in technology, resources and capital. However, any interested person can participate as a part of validation of transaction on Bitkub Chain by 3 different types as follows:

Official Node

Official Node is the type of Validator that allows the developer of decentralized application who is either Official Project or Verified Project on Bitkub Chain to become Validator and provide opportunity to the public to join as Delegators with the Official Node with the minimum initial amount of KUB staking of 1 KUB, and the percentage of shared reward is subject to the amount of KUB staking of which the Official Node has the right to charge the fee for staking (the "Staking Fee") from the Delegator at the rate of 5% by deducting from each reward obtained.

- **Minimum Initial Amount of KUB Staking for Official Node:** 1 KUB
- **Minimum Initial Amount of KUB Staking for the Delegator:** 1 KUB
- **Placement of Infrastructure System:** On-Premises
- **Reward Percentage:** Subject to amount of KUB staking and Staking Fee deduction
- **Staking Fee:** Approximately 5%
- **Node Owner:** Official Node

Pool Node

Pool Node is the type of Validator that allows public to become Validator with the minimum initial amount of KUB staking of 100,000 KUB to be eligible for this type of Validator and allows the public to participate as Delegator with Pool Node, with the minimum initial amount of KUB staking of 100 KUB and the percentage of shared reward is subject to the amount of KUB staking of which the Official Node has the right to charge the Staking Fee from the Delegator by deducting from each reward obtained and the percentage of staking fee deduction shall be imposed by the Pool Node.

- **Minimum Initial Amount of KUB Staking for Pool Node:** 100,000 KUB
- **Minimum Initial Amount of KUB Staking for Delegator:** 100 KUB
- **Placement of Infrastructure System:** On-Cloud or On-Premises
- **Reward Percentage:** Subject to amount of KUB staking and the payable deduction of Staking Fee
- **Staking Fee:** Set out by the Pool Node Validator
- **Node Owner:** Pool Node

Solo Node

Solo Node is a type of Node Validator that allows the public to become Validator. This requires the minimum initial amount of KUB staking of 10 KUB and the reward percentage is determined by the proportion of KUB on Node and the quantity of KUB staked on every node on Bitkub Chain.

- **Minimum Initial Amount of KUB Staking for Solo Node:** 10 KUB and unable to allow the Delegator to jointly stake KUB
- **Placement of Infrastructure System:** On-Cloud or On-Premises
- **Staking Fee:** No Staking Fee since Delegator is not allowed to participate in the staking
- **Node Owner:** Solo Node

Tech Partner



For change of consensus mechanism of Bitkub Chain from Proof-of-Stake-Authority (PoSA) to Proof-of-Stake (PoS), BBT or affiliates of Bitkub Group (other than BO) may participate as the Official Node to enhance confidence to the relevant person of Bitkub Chain that this change of consensus mechanism of Bitkub Chain shall not affect the reliability and implementation of Node for validation of transaction on Bitkub Chain.

5.6 Related Technology

Validator Quorum

During the Genesis Stage or starting period of blockchain, only trustworthy Nodes serve as the Validators on Bitkub Chain. After the consensus transition from PoA and PoSA to PoS, everyone can participate as the Validators. For Bitkub Chain, every block creates in every 5 seconds and the Epoch length is 300 blocks, it means that each Epoch is around 1,500 seconds or 25 minutes apart.

Support in Bitkub Chain

- **Ethereum Smart Contract Support**

Interoperability is one of the key features that enables blockchain to be widely used. Currently, Ethereum is the large network and is the prototype of token, Decentralized Applications and Smart Contract. BBT sees the importance of such blockchain infrastructure, so BBT has developed Bitkub Chain to support Ethereum-based Smart Contracts.

- **Javascript Libraries**

Javascript libraries allows the Developer to create their work conveniently and to work interoperable with the network. Bitkub Chain is compatible with a wide range of Javascript libraries, including:

- Support Web3.js
- Ether.js (optional)
- Truffle.js library

- **Online (Web 3) Wallet Support**

Bitkub Chain is the blockchain infrastructure that supports decentralized wallets such as Metamask and Bitkub NEXT. As a result, individuals who own their private key may transfer, receive, and store digital assets on their own.

5.7 Bitkub Chain Ecosystem

Bitkub Chain strives to create a comprehensive ecosystem for the Developer, small and medium-sized businesses, startups, and end users to fully utilize blockchain technology. BBT has already contacted its partner companies to become a part of the network in the process of developing the blockchain community for driving the real use case, and in the future, BBT will seek the companies or the entrepreneurs who play significant roles for both national and global economies, as well as startups that have recently started their business to be partners of BBT in order to drive the business sectors to expand their business smoothly through the conversion of traditional assets into token form. The BBT marketing team shall analyze which partners or type of partner that can support and promote Bitkub Chain network to be stronger and more valuable.

BBT is in touch with representatives of leading organizations to convince them to join the network, while continuing to engage with existing partners to be a part of the network continuously with the objective of driving use case of Bitkub Chain from the national to the regional and worldwide levels.

06

Bitkub Coin (KUB)

6.1 Coin Utility

KUB is the Native Token of Bitkub Chain (comparable to Ether on the Ethereum network).

KUB has utilities as follows:

- **Gas Fee:** It functions as a unit of measurement for the amount of work accomplished by a Validator such as validating and confirming transactions, generating blocks, and securing transactions on Bitkub Chain network. Users shall be required to pay the Gas Fee by use of KUB of which the amount of Gas Fee required to be paid dependent on the complexity and size of transaction generated on Bitkub Chain. The Gas Fee shall be used in these processes:
 1. The Gas Fee for transaction fee on blockchain network such as asset transfer, storage, and others
 2. The Gas Fee for utilizing smart contracts or Decentralized Applications on the blockchain network.
- **Fee Credit:** Since KUB can be traded in digital asset exchange operated by BO, such fact causes KUB to have different features from other Native Token of other blockchain. The holder of KUB can exchange KUB to Fee Credit of digital asset exchange operated by BO which shall be announced and informed via BO's website.
- **Proof-of-Stake (PoS) Staking:** The holder of KUB can stake their KUB to be entitled as the Validator or the Delegator on Bitkub Chain's Proof-of-Stake consensus
- **Redemption of goods or services provided by BBT partners:** KUB holders can obtain special goods or services by using the KUB from BBT partners. Such utilities, however, are for the purpose of marketing campaigns only. There is no intention to use KUB as payment for goods or services.

6.2 Coin-related Economic System

Tokenomic Overview

- **Coin Name :** Bitkub Coin
- **Abbreviation and Counting Unit Name :** KUB
- **The Current Total Amount of Coins =** 110,000,000 KUB
- **The Total Amount of Coins Presently in Circulation in the System =** 78,000,000 KUB



On August 9, 2021, KUB in the amount of 890,000,000 KUB has been burnt and destroyed in order to reduce the total original amount of KUB from 1,000,000,000 KUB to 110,000,000 KUB to be conformance with objectives of Bitkub Chain V2.0's that wished to lowering the Gas Price from 50 Gwei to 5 Gwei per transaction to urge mass adoption speedily in reasonable price. Due to the foregoing reason, it has caused KUB distribution ratio pursuant to the original coin distribution plan to be changed to correspond with the amount of KUB burnt or destroyed.

And after BBT developer team has discussed with Validator Node to adjust Gas Price from 5 Gwei to 25 Gwei, on October 16, 2023, on the purpose of the adjustment the balance between related parties in the ecosystem, including general user, project developer, Validator, and Delegator in order to allow everyone to be a part of the development of Bitkub Chain towards the goal of becoming the foundational infrastructure of the digital economy in the future.

Bitkub Chain economy is designed to be long-term sustainable, with incentives for the user and an emphasis on maintaining network balance. The use of functions of Bitkub Chain must be exchanged with depletion of processing power of computers in the network. KUB is therefore utilized as the Gas Fee, for processing whilst the Validator shall obtain KUB as compensation for using a part of resource with procedures in the network such as confirmation of transaction or generating new block. Such concept shall urge everyone to participate in the network more, in either the users that would like to transact or Validator who shall validate correctness and record data on blockchain. Furthermore, the rewards distributed to Validators are computed for each block and dispersed among Validator who took part in that particular block. This mechanism provides the network with an overview of KUB supply and promotes long-term network stability and security. Without this operation through the use of KUB, there would be no motivation for users to engage with the network.

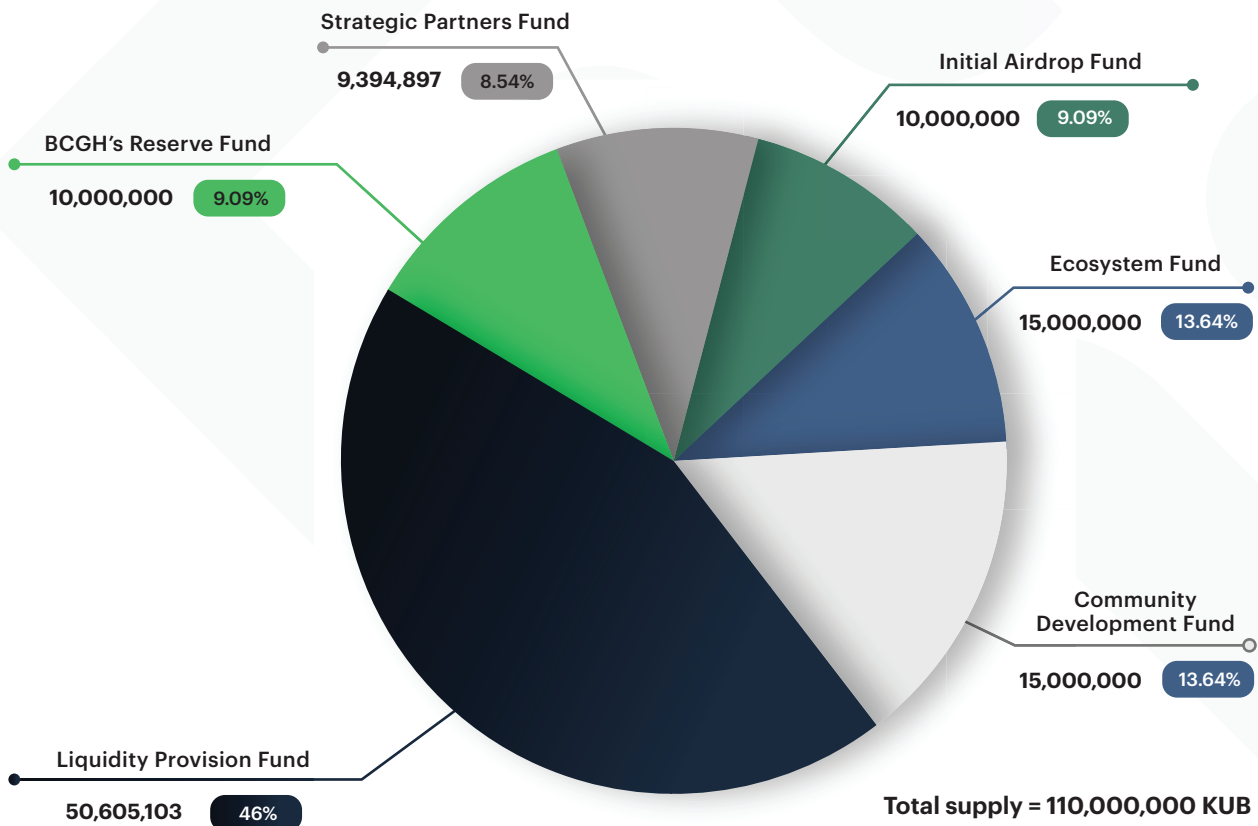
Distribution of KUB

Means of Distribution of KUB	Ratio to Total KUB	Amount of KUB (coin)	Period of Distribution of KUB
Ecosystem Fund	13.64%	15,000,000 KUB	Unlock at Bitkub Chain V1.0 launch (not fully unlocked)
Community Development Fund	13.64%	15,000,000 KUB	Release Quarterly for 2 years (first release in September 2021)
BCGH's Reserve Fund	9.09%	10,000,000 KUB	3 years locking period then unlock yearly for 3 years (first release in September 2024)
Liquidity Provision Fund	46%	50,605,103 KUB	Completed
Strategic Partners Fund	8.54%	9,394,897 KUB	Unlock at Bitkub Chain V1.0 launch (not fully unlocked)
Initial Airdrop Fund	9.09%	10,000,000 KUB	Completed
Total KUB Supply	100%	110,000,000 KUB	-

- Ecosystem Fund** - This fund is managed by BBT and used for a variety of purposes, including project development on Bitkub Chain, support of Validator, support of Gas Fee, and other infrastructure development that will assist the Bitkub Chain ecosystem to grow steadily in the long term. On August 9, 2021, 285,000,000 KUB (from the total amount of 300,000,000 KUB as specified in Bitkub Chain Whitepaper V1.0) were burnt to 15,000,000 KUB.
- Community Development Fund** - This fund is managed by BBT for the purpose of establishing a user network and promoting the usage of the Bitkub Chain through community education, with the goal of creating a stronger ecosystem. On August 9, 2021, 225,000,000 KUB (from the total amount of 240,000,000 KUB as specified in Bitkub Chain Whitepaper V1.0), were burnt to 15,000,000 KUB.



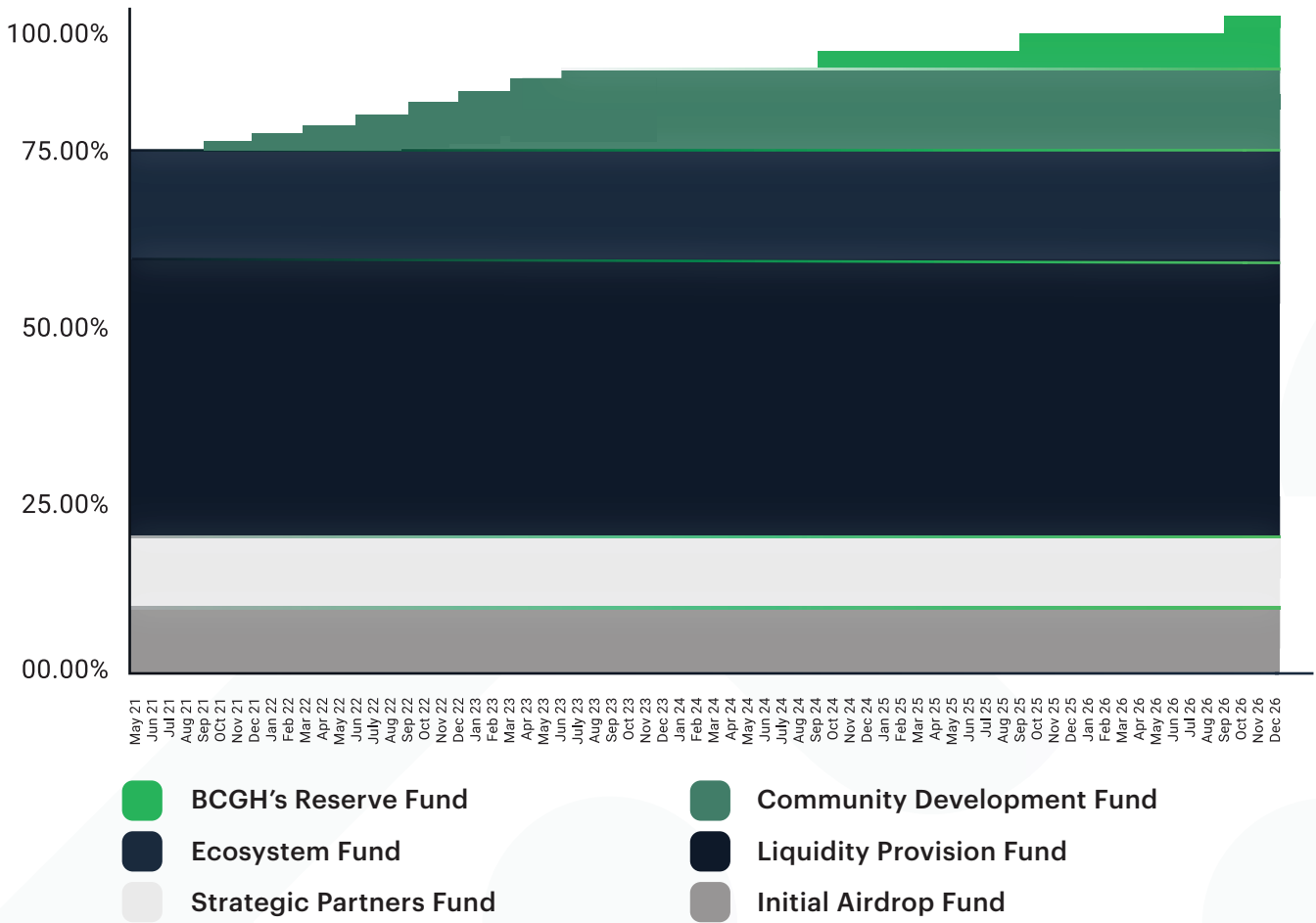
- **BCGH's Reserve Fund** - This fund is held and managed by BCGH to be used as a reserve fund for emergency event or it whatsoever are determined to be appropriate by the board of directors of BCGH. On August 9, 2021, 290,000,000 KUB (from the total amount of 300,000,000 KUB as specified in Bitkub Chain Whitepaper V1.0) were burnt to 10,000,000 KUB.
- **Liquidity Provision Fund** - This fund is managed by BBT to support liquidity of KUB on the first trading day in the digital asset exchange operated by BO. On August 9, 2021, 49,394,897 KUB initially locked were burnt but the remaining 50,605,103 KUB that were purchased, are still circulating in digital asset market.
- **Strategic Partners Fund** - This fund is managed by BBT with the purpose of making relationships with business partners to participate in Bitkub Chain. On August 9, 2021, 40,605,103 KUB (from the total amount of 50,000,000 KUB as specified in Bitkub Chain Whitepaper V1.0) were burnt to 9,394,897 KUB.
- **Initial Airdrop Fund** - This fund was managed by BO to use as the fund for KUB distribution for BO customer who had minimum collective purchase volume that met the criteria and time as set out by BO. This fund was completely dispersed at the beginning of KUB launching period.



Bitkub Coin (KUB) is a utility token, not a stock or other kind of investment. The possession of KUB creates no ownership or other interest in BBT or affiliates in Bitkub Group. This Whitepaper is not a prospectus or investment presentation, and it does not represent an offer to sell or solicit investment in securities in any jurisdiction.



Release Schedule



6.3 Operational Plans

Quarter 1-2 / 2023

- Launch Bitkub NEXT SDK
- Launch Bitkub NFT SDK
- Launch Bitkub Chain Infrastructure as a Service (RPC, IPFS)
- Launch Bitkub Chain Developer Center
- Launch NFT Payment Solutions
- Officially Launch of Bitkub Metaverse

Quarter 3-4 / 2023

- Change the consensus mechanism from Proof-of-Stake-Authority (PoSA) to Proof-of-Stake (PoS)
- Launch Staking Pool (PoS)
- Launch Bitkub NEXT 2.0 (Super App)
- Launch Bitkub NFT Hub (Bitkub NFT 2.0)
- Launch EarnKUB 2.0
- Launch Bitkub NFT Creative Studio platform

*Platform launch timeline and additional functionalities are subject to change without notice.

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Disclaimer

PLEASE READ THE FOLLOWING STATEMENT CAREFULLY. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT A LEGAL, FINANCIAL, TAX, OR OTHER RELEVANT ADVISER.

This Bitkub Chain Whitepaper has been prepared to describe the present facts and circumstances at the time of document preparation, as well as future plans related to Bitkub Chain and the Bitkub Chain ecosystem based on facts and circumstances at the time of document preparation only. BBT reserves the right to edit, update, or revise any statement in this Bitkub Chain Whitepaper.

Although this document has been prepared with intention and care to ensure that information, as presented in this document, is correct and up to date. The information presented under this document may have some parts that are not complete or inaccurate, especially events or operational plans in the future which may be occurred from risk factors including unforeseen events in the future such as limitation or mistake of technology, limitation of law or measurement to control market forces, discretion of Bitkub Group, inaccuracy of information of future circumstances that is changed from any forecast as expected. BBT does not warrant the correctness, completeness, validity and reliability of information as specified in this document and BBT, its executives, employees, representatives including any other relevant person of BBT shall not be responsible if any person is damaged (by either foreseeable or unforeseeable circumstance) by using such information as a reference, interpreting, publishing, or doing any act by relying or referring to information as specified in this document without careful consideration.

This document is not prepared for the purpose of soliciting or persuading investment or providing advice relating to investment or trading of KUB or investment in assets or securities, and KUB is the instrument that makes its holder having rights and participation in Bitkub Chain ecosystem only.

This document is not deemed as investment-related documents in any case and does not have the purpose for soliciting or persuading investment or trading of KUB or relevant asset, and KUB is the instrument that makes its holder having right to participate in Bitkub Chain ecosystem only.

References

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- [4] ISO27001 obtained dated 18 January 2022 and ISO27701 obtained dated 9 December 2022.
- [5] Reference from Cer.live/exchange/Bitkub information dated August 2023.
- [6] Reference from the sum of application download in All-time basis via iOS, Android and Huawei platforms from Google Play, Console and Apple Store Connect in June 2023.
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